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reactants used or examples of a final polyurethane product. The Examiner therefore concludes that one skilled in the art would not be able to make the invention as claimed. Applicant respectfully asserts that the Examiner is incorrect. Particularly, Applicant asserts that claims 3, 4 and 16-20 are sufficiently enabled such that one of ordinary skill in the art could make and use the invention as claimed.

Claims 3, 4 and 16-20 stand rejected under 35 U.S.C. 112, first paragraph. It is respectfully submitted that this ground of rejection is improper and should be withdrawn. The Examiner asserts that the polyurethane polymers in claims 3, 4, and 16 are not adequately described in the specification. Applicant respectfully submits that this is not the case. First, there is no requirement that Applicant must describe *each and every* polyurethane and/or reactant which may be used according to the present invention. It is urged that one skilled in the art would clearly be able to determine proper polyurethanes and proper reactants for making such polyurethanes in accordance with the present invention upon a reading of the specification as a whole. Applicant particularly points to the disclosure on page 5, lines 1-15 and page 5, line 17 through page 6, line 4.

The Examiner argues that these rejected claims are not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. According to the Examiner, the polyurethane polymers of claims 3, 4 and 16 are not adequately described in the specification because they encompass wide ranges of polyurethane compositions and because the Applicant does not give specific examples of reactants used or examples of a final polyurethane product. The Examiner therefore concludes that one skilled in the art would not be able to make the invention as claimed. Applicant respectfully asserts that the Examiner is incorrect. Particularly, Applicant asserts that claims 3, 4 and 16-20 are sufficiently enabled such that one of ordinary skill in the art could make and use the invention as claimed.

The enablement requirement of 35 U.S.C. 112 is discussed in MPEP § 2164. As described in MPEP § 2164.01, the standard for testing the enablement of a claim was established by the U.S. Supreme Court in the case of *Mineral Separation v. Hyde*.

According to the court, a claim must be enabled so that any person skilled in the art can make and use the invention without undue experimentation. *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916). The test of enablement is not whether any experimentation is necessary, but whether, if experimentation is necessary, it is undue. *In re Angstadt*, 537 F.2d 498, 504, 190 USPQ 214, 219 (CCPA 1976). It is respectfully asserted that no undue experimentation is necessary to make and use the invention as described in claims 3, 4 and 16-20. Looking to claim 3, Applicant claims a flame retardant resin coating as described in claim 2, wherein the base resin comprises phosphorus-containing polyurethanes obtained by copolymerizing a polymer precursor with monomers, said polymer precursor comprising:

a) a polymerizable unsaturated bond;

b) an oxycarbonyl or iminocarbonyl group;

c) a free hydroxyl group or a functional group obtainable by reacting a free hydroxyl group with an appropriate electrophile; and

d) a terminal group, containing phosphorus and oxygen, at the end of a carbon chain, and at least one group selected from a phosphorus hydroxyl group and, optionally, a substituted hydrocarbyl group connected via an oxy group to a phosphorus atom, and being substantially free from halogen-containing groups and having a molecular weight (mass number Mn for a polymer) of from about 200 to about 5000 daltons, and, optionally, a viscosity of less than about 14,000 mPa.·s.

Looking to claim 4, Applicant claims a flame retardant resin coating of claim 2, wherein the base resin comprises phosphorus-containing polyurethanes obtained by copolymerizing an organic compound or a polymer with monomers, said organic compound or polymer comprising at least one unsubstituted or substituted cycloalkoxy group in which at least one of the ring atoms is oxygen, the cycloalkoxy group being connected to at least one unsubstituted or α-substituted alkylenylcarbonyloxy group having at least one active hydrogen atom α to the carbonyl group, wherein

a) at least one cycloalkoxy group may optionally react with a phosphate ester to form a terminal phosphate ester group which possesses a hydroxyl group on the β carbon atom; and/or

b) at least one alkylene carbonyl group may optionally react with a H-phosphonate ester to form a terminal phosphonate ester group β to a carbonyloxy group, and, optionally, at least one cycloalkoxy group may react with a carboxylic acid group conjugated with an unsaturated group, to form a carbonyloxyhydroxyalkyl group which is adjacent to an unsaturated carbon bond, and, in one or both cases, the resultant product contains at least one phosphorus atom, at least one hydroxyl group and at least one polymerizable unsaturated carbon bond.

Looking to claim 16, Applicant claims a flame retardant resin coating of claim 1 wherein the base resin comprises a polyurethane (meth)acrylate which is prepared by reacting a polyurethane with a compound containing at least one phosphorus-containing group, at least one (meth)acrylate group, and at least one functional group which reacts with at least one end group of the polyurethane to form a covalent bond. Claims 17-20 depend from claims 16.

Claim 2, to which claims 3 and 4 refer, claims a flame retardant resin coating of claim 1, wherein the base resin is selected from the group consisting of polyester, polyether, epoxy, polyurethane, acrylic acrylates, melamine acrylates, and silicone (meth)acrylates. Claim 1, to which claim 2 refers, claims a flame retardant resin coating comprising a flame retardant base resin and a transparent resin top layer, wherein the base resin comprises color pigments and from about 2.5 to about 50% by weight, based on the weight of the base resin, of at least one flame retardant additive selected from the group consisting of melamine polyphosphates, melamine pyrophosphates, ammonium polyphosphates, and mixtures thereof; and wherein the transparent resin comprises from about 0.5 to about 2% by weight, based on the weight of the transparent resin, of at least one sterically hindered amine. Neither claim 1 nor claim 2 have been rejected by the Examiner under 35 U.S.C. 112. It is respectfully submitted that the directives of claims 3 and 4, in and of themselves, sufficiently enable on of ordinary skill in the art to make and use the invention as claimed without undue experimentation.

The specification offers additional instruction for making the invention. The Examiner is directed to page 6, lines 6-16 of the specification, which describes one particular embodiment of the invention in which the base resin comprises polyurethane (meth)acrylate, formed from a group of resins from UCB n.v., B-1620 Drogenbos, which is preparable by reacting the polyurethane with a compound containing at least one phosphorus-containing group, at least one (meth)acrylate group, and at least one functional group which reacts with at least one of the end groups of the polyurethane to form a covalent bond. Preferably, said phosphorus-containing group comprises a phosphate or phosphonate group and said (meth)acrylate group is part of a (meth)acryloyloxy group. The functional group, which reacts with an end group of the polyurethane to form a covalent bond, preferably comprises a hydroxyl group, more preferably a primary or secondary hydroxyl group. Most preferably, from one to three (meth)acryloyloxy groups present. Following these directives, it is respectfully asserted that one skilled in the art would be entirely capable of making and using the claimed invention with no undue experimentation being required. "As long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. 112 is satisfied." MPEP § 2164.01(b). See also *In re Fisher*, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970) (the scope of enablement must only bear a "reasonable correlation" to the scope of the claims).

Furthermore, MPEP § 2164.01(a) outlines several factors that are to be considered to determine whether undue experimentation is required. One factor to be considered is the existence of working examples. However, this is not the only factor to be considered. It appears as though the Examiner has improperly given the absence of a working example in support of claims 3, 4 and 16-20 conclusive weight for lack of enablement. This is improper. "Compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, does not turn on whether an example is disclosed." MPEP § 2164.02. "The specification need not contain an example if the invention is otherwise disclosed in such manner that one skilled in the art will be able to practice it without an undue amount of experimentation." *In re Borkowski*, 422 F.2d 904, 908, 164 USPQ 642, 645 (CCPA

1970). It is respectfully submitted that even without examples specifically directed to the embodiments of claims 3, 4 and 16-20, no undue experimentation would be required to make and use the claimed invention because said claims offer sufficient direction to one of ordinary skill in the art.

The Examiner has not provided any other reasoning for the rejection but for the absence of working examples. "In order to make a rejection, the Examiner has the initial burden to establish a reasonable basis to question the enablement provided for the claimed invention." *In re Wright*, 999 F.2d 1557, 1562, 27 USPQ2d 1510, 1513 (Fed. Cir. 1993). The Examiner must provide a reasonable explanation as to why the scope of protection provide by a claim is not adequately enabled by the disclosure. It is respectfully submitted that the Examiner has not met this initial burden. The Examiner has merely stated that Applicant's broad disclosure of polyurethane compositions are not supported by Examples. As discussed above, the absence of an Example is not a reasonable explanation for lack of enablement. It is respectfully submitted that one skilled in the art could readily determine any one of the claimed embodiments.

Claims 17-20 are rejected as each being dependent on a rejected base claim. Applicant submits that the rejections of the base claims are improper and should be withdrawn in light of the above arguments. It is therefore respectfully submitted that the rejection of claims 17-20 should be withdrawn as well. For all of the foregoing reasons, it is respectfully urged that claims 3, 4 and 16-20 are fully enabled and the rejection under 35 U.S.C. 112, first paragraph, is improper and should be withdrawn.

In effect, the examiner has rejected claims 3-4 and 16-20 for undue breadth, and yet argues a lack of enablement. It is submitted that the claims are supported by an adequate enabling disclosure and the grounds of rejection do not follow established law.

Only a person of ordinary skill in the art to which the invention pertains need be enabled by the application disclosure. In re Naquin, 158 USPQ 317 (CCPA 1968). A reasonable amount of experimentation is permissible to enable making and/or using of the invention

without resulting in failure to satisfy the enablement requiremnt of section 112. In re Miller, 441 F.2d 689, 169 USPQ 597 (CCPA 1971); In re Angstadt, 537 F.2d 498, 190 USPQ 214 (CCPA 1976); Ansul Company v. Uniroyal, Inc. 448 F.2d 872, 169 USPQ 759 (2d Cir. 1971); Caldwell v. U.S. 175 USPQ 44 (Ct. Cls. 1972). Undisclosed subject matter that is inherent from the disclosed subject matter can be relied upon to satisfy the enablement requirement. In re Wilding, 535 F.2d 631, 190 USPQ 59 (CCPA 1976); Bendix Corp v. Balax, Inc. 421 F.2d 809, 164 USPQ 485 (7th Cir.. 1970); W.L. Gore Assoc., Inc. v. Carlisle Corp., 529 F.2d 614, 189 USPQ 129 (3d Cir. 1976); Stamicarbon N.V. v. The Chemical Constr. Co., 544 F.2d 645, 192 USPQ 11 (3d Cir. 1976).

The principal inquiry to be undertaken when examining the question of whether the enablement requirement has been satisfied is whether the scope of enablement provided by the application is commensurate with the scope of the invention set forth in the claims. See, e.g., In re Cescon, 474 F.2d 1331, 177 USPQ 265 (CCPA 1973). The USPTO has historically considered it necessary to provide a broad scope of enablement by providing a large number of specific embodiments of the invention falling within the scope of the claims.

In the case of In re Robins, 429 F.2d 452, 166 USPQ 552 (CCPA 1970) the court held that specific working examples are only one means of satisfying the enablement requirement of Section 112, and furthermore, that the mere listing of specific compounds, chemical substituents, solvents, cross-linking agents, etc. in the specification would in most cases provide evidence of enablement equivalent to that previously required in the nature of specific working examples using each of the various components. See In re Stephens, 529 F.2d 1343, 188 USPQ 659 (CCPA 1976). The only instant where a generic description of the scope of enablement or the presentation of a mere listing is suitable elements will be deemed insufficient is where there exists a reasonable basis for doubting the suitability and/or operativeness of some embodiments included within the generic definition or listed among the list of suitable matter. The CCPA has also held that the disclosure of invention set forth by an applicant in his application must be given the presumption of correctness and operativeness by the PTO and that the only relevant

concern of the PTO under the circumstances should concern the truth of the assertions contained in the application.

> As a matter of Patent Office practice, then, a specification disclosure which contains a teaching of the manner and process of making and using the invention in terms which correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as in compliance with the enabling requirement of the first paragraph of S112 unless there is reason to doubt the objective truth of the statement contained therein which must be relied on for enabling support ... In any event, it is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain why it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning which is inconsistent with the contested statement. Otherwise, there would be no need for the applicant to go to the trouble and expense of supporting his presumptively accurate disclosure.In re Marzocchi, 439 F.2d 220, 169 USPQ 367 (CCPA 1967). See also in re Bowen, 492 F.2d 859, 181 USPQ 48 (CCPA 1974).

The PTO Board of Appeals has adopted the standard established by the CCPA in Marzocchi. See, e.g., Ex parte Laiderman, 175 USPQ 757 (POBA 1971) and Ex parte Kenage, 190 USPQ 346 (POBA 19760. For the foregoing reasons, it is respectfully asserted that all of the 35 U.S.C. 112 rejections should be withdrawn.

Claim 20 stands rejected under 35 U.S.C. 112, second paragraph, as being indefinite. It is respectfully asserted that the rejection is incorrect and should be withdrawn. The Examiner states he is unsure how the entire coating may comprise only from about 1 to about 3 (meth)acryloyloxy groups. The Examiner states that he is not certain whether this is measured by moles of coating, measured per repeat unit in the resin, or represents another type of structure. On page 6, lines 6-16, it is described that the base resin of the invention comprises polyurethane (meth)acrylate formed from a group of resins from UCB n.v., B-1620 Drogenbos, which is preparable by reacting the polyurethane with a compound containing at least one phosphorus-containing group, at least one (meth)acrylate group, and at least one functional group which reacts with at least one of the end groups of the polyurethane to form a covalent bond. It is described that said

(meth)acrylate group is part of a (meth)acryloyloxy group. A (meth)acryloyloxy group as used herein describes a type of (meth)acrylate group that may be used in the invention. It is respectfully submitted that the meaning of "from about 1 to about 3 (meth)acryloyloxy groups" would be readily understood by one of ordinary skill in the art without the need for further guidance with respect to the meaning of the term "groups", as this is a term which is commonly used in the art. See, for example, the cited Japanese publication no. JP 402178359A to Kawakami et al., which discloses a composition which may include "acryloyloxy groups". For these reasons it is respectfully submitted that claim 20 is not indefinite and it is respectfully asserted that all of the 35 U.S.C. 112 rejections should be withdrawn.

The Examiner has rejected claims 1-15 and 21-24 under 35 U.S.C. 103(a) over Von Bonin '527 in view of either Valet et al. or Susi, and also in view of the Applicant's disclosure in the specification. The present invention relates to a flame retardant resin coating comprising a flame retardant base resin and a transparent resin top layer. It provides a highly flame retardant material which also exhibits good results in the weathering tests.

The present invention relates to a flame retardant resin coating composition comprising a flame retardant base resin as a first layer and a transparent resin top layer as a second layer. Both layers comprise specific components, i.e. the base resin comprises color pigments and from about 2.5 to about 50%, based on the weight of the base resin, of at least one flame retardant. The transparent resin top layer comprises from about 0.5 to about 2% by weight, based on the weight of the transparent resin, of at least one sterically hindered amine. Therefore, the present coating comprises a flame retardant base resin and a transparent resin top layer. The structure is a key feature of the present invention, because it can provide a colored resin coating which can withstand severe weather conditions and which has a high resistance to fire. It is respectfully submitted that such a composition is neither taught nor suggested in any of the references, either alone or in combination.

It is respectfully submitted that the weathering stability of the flame retardant resin coating is influenced by the amount of flame retardant additives in the base resin in that the susceptibility of the coating to UV irradiation, hydrolysis, and other weathering phenomena is increased. In order to counter this unwanted increase in susceptibility, it is particularly important to strengthen the resistance to UV radiation to improve weathering stability. This is done by the addition of the UV absorbers described by Applicant in a transparent layer which covers the base resin of the resin coating. To describe the problem with more particularity, UV radiation is able directly to break chemical bonds in the polymers since the photon energy, which is a function of the wavelength, falls within the range of chemical bond energy. In the absence of oxygen, the free radicals which are formed result in chemical cross linking. In the presence of oxygen, photo oxidation occurs, and may be initiated even by visible light. This gives rise to a cyclical chain reaction which yields a hydroperoxide which is present in the polymer chain and may lead to chain scission. The free radicals formulated in the chain reaction may be deactivated by primary stabilizers, which, for example, comprise sterically hindered phenols and amines. These are able to form highly stable free radicals which are unable to initiate chain reactions and which instead, conversely, scavenge the aggressive peroxy radicals. Particularly effective are sterically hindered amines, also called HALS (hindered amine light stabilizers), in which the nitrogen is incorporated in a cycloaliphatic piperidyl ring. The sterically hindered amines provide steric shielding of free radicals which are scavenged.

U.S. patent 4,740,527 to von Bonin relates to optionally porous intumescent masses containing carbonization auxiliaries, fillers and optionally other auxiliary agents, obtainable by the reaction of isocyanate-reactive compounds, optionally containing phosphorus of boron with polyisocyanates, in the presence of polyepoxides. The fire retarding panels or wall elements may easily be produced by applying the coatings to a panel or supporting construction. However, as the Examiner admits, von Bonin does not include the transparent resin top layer that the Applicant claims. Importantly, there is no suggestion from Von Bonin that one could or should apply any coating at all on his fire-resistant coating. More particularly, there is no suggestion that one could or should apply

a transparent layer thereto, which transparent layer comprises from about 0.5 to about 2% by weight of at least one sterically hindered amine.

The Examiner attempts to fill the void in von Bonin by citing Valet et al. ('067) or alternatively Susi ('956). U.S. patent 5,298,067 to Valet et al. relates to a coating material stabilized against the degradation induced by light, oxygen and heat which includes a sterically hindered amine. The subject of this patent includes a method of stabilizing a coating material against the deleterious effects of light, oxygen and heat, which method comprises adding to said coating material at least one hydroxyphenyltriazine of their formula I. The function of their stabilizer is to stabilize the coating material itself against the effects of light, oxygen and heat, and not to protect the substrate and any base resin layer *beneath* it from degradation due to light or environmental effects.

US Patent 4,619,956 (Susi) relates to synergistic combinations of hindered amine light stabilizers (HALS) and ultraviolet absorbers (UVA). Susi provides a method of stabilizing a polymer against the action of light, moisture, and oxygen comprising *incorporating in said polymer* a stabilizing and synergistically effective amount of their components A and B. Therefore, the protective layer provided by Susi is not to protect the substrate and any base resin layer beneath it from degradation due to light or environmental effects. As one can read in column 1, line 11-15, the use of HALS and UVA individually or in combination to stabilize synthetic resins, plastics and the lacquers and coatings *made therefrom* against light degradation is well known.

In forming the instant rejection, the Examiner leaps to the conclusion that, in effect, all features of the present invention are therefore prima facie obvious. This is certainly not the case. A careful reading of each of Valet, et al and Susi fails to teach or suggest that their coatings be applied to a flame retardant base, much less a base having a flame retardant additive selected from the group consisting of melamine polyphosphates, melamine pyrophosphates, ammonium polyphosphates.

In establishing a *prima facia* case of obviousness under 35 U.S.C. 103, it is incumbent upon the Examiner to provide a reason why one having ordinary skill in the art would have been led to combine references to arrive at the claimed invention. The requisite motivation must stem from some teaching, suggestion or interest in the prior art as a whole or from knowledge generally available to one having ordinary skill in the art. See *Uniroyal, Inc. v. Rudkin Riley, Corp.*, 837 F. 2d 1044, 5 USPQ 2d 1434 (Fed. Cir. 1988); *Ashland Oil, Inc. v. Delta Resin And Refractories, Inc.*, 776 F. 2d 281, 227 USPQ 657 (Fed. Cir. 1985).

Where Claimed subject matter has been rejected as obvious in view of prior art references, a proper analysis under 35 U.S.C. 103 requires consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composite or device or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out the claimed invention those of ordinary skill would have a reasonable expectation of success. See *In Re Dow Chemical Company* 837 Fed. 2d 469, 473, 5 USPQ 2d 1529, 1531 (Fed. Cir. 1988). Both the suggestions and the reasonable expectation of success must be found in the prior art, not in Applicant's disclosure.

Applicant respectfully assert that such a suggestion and/or reasonable expectation of success could not be found in the cited references. Neither von Bonin, nor Valet et al., nor Susu, taken singularly or in combination, teach or suggest the claimed subject matter. Specifically, the applied references neither anticipate or suggest a flame retardant resin coating comprising a flame retardant base resin and a transparent resin top layer, wherein the base resin comprises color pigments and from about 2.5 to about 50% by weight, based on the weight of the base resin, of at least one flame retardant additive selected from the group consisting of melamine polyphosphates, melamine pyrophosphates, ammonium polyphosphates, and mixtures thereof; and wherein the transparent resin comprises from about 0.5 to about 2% by weight, based on the weight of the transparent resin, of at least one sterically hindered amine.

The Patent and Trademark Office Board of Appeals and Interferences stated the following in *Ex parte Clapp*, 227 USPQ 972 (1985), at page 973:

> Presuming arguendo that the references show the elements or concepts urged by the Examiner, the Examiner has presented no line of reasoning, and we know of none, as to why the artist when viewing only the collective teachings of the references would have found it obvious to selectively pick and choose various elements and/or concepts from the several references relied on to arrive at the claimed invention. In the instant application, the Examiner has done little more than cite references to show that one or more elements or some combinations thereof, when each is viewed in a vacuum, is known. The claimed invention, however, is clearly directed to the combination of elements. That is to say, Applicant does not claim that he has invented one or more new elements but has presented claims to a new combination of elements. To support the conclusion of the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination where the Examiner must present a convincing line of reasoning as to why the artist would have found the claimed invention to have been obvious in light of the teaching of the references.

With the above directives, consideration must be given as to whether the combination of references in the manner set forth in the Office Action is proper to render the Applicant's invention obvious in view thereof.

As set forth hereinabove, Applicant respectfully asserts that the references do not teach or suggest the combination as set forth in the claims, as is evident from the differences between Applicant's invention and the cited art. The benefit of the present invention must be seen in the unforeseen combination of a flame retardant containing base resin and a sterically hindered amine containing transparent resin top layer. Such a flame retardant resin coating is suitable for application to articles exposed to outdoor weathering or to humid, chemical or thermal conditions. There is simply nothing in the selected combination of references that would teach or suggest to one of ordinary skill in the art to make the claimed invention and have a reasonable expectation of success in doing so. Again, the combination of references must teach the claimed combination to render Applicant's claimed invention obvious under 35 U.S.C. 103.

It is urged that the Examiner is merely reconstructing the art in light of Applicant's disclosure by selecting and combining features from references where there is no suggestion in those references to do so. The point in time that is critical for an obviousness determination is at the time the invention. "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983).

Obviousness cannot be established by hindsight combination to produce the claimed invention. *In re Gorman*, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed.Cir.1991). It is the prior art itself, and not the Applicant's achievement, that must establish the obviousness of the combination.

Again, the present invention relates to a flame retardant resin coating comprising a flame retardant base resin and a transparent resin top layer. It provides a highly flame retardant material which also exhibits good results in the weathering tests. The structure is a key feature of the present invention, because it can provide a colored resin coating which can withstand severe weather conditions and which has a high resistance to fire. This is neither taught nor suggested in the applied references.

The invention cannot be deemed unpatentable merely because, in a hindsight attempt to reconstruct the invention, one can find elements of it in the art; it must be shown that the invention as a whole was obvious at the time the invention was made without knowledge of the claimed invention. 35 U.S.C. 103. Applicant submits that there is no teaching or suggestion in Von Bonin or Valet et al. which would inspire one skilled in the art to combine these references. To be sure, Von Bonin relates to fire resistant masses, while Valet et al. teaches coating materials which are resistant to light-induced degradation.

These materials exist in different fields of art, and thus it is again urged that there is no motivation in the art to combine Von Bonin and Valet et al.

Similarly, it is urged that no teaching or suggestion exists which would inspire one skilled in the art to combine Susi with Von Bonin. Susi teaches a protective layer and method for stabilizing polymeric films, coatings, and articles against the actions of light, moisture, and oxygen. Indeed, Susi does teach the possible use of a sterically hindered amine light stabilizer. However, there is still no teaching or suggestion in the cited art which would lead one to combine the fire resistant masses of Von Bonin with the protective layer of Susi. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." In re Geiger, 2 U.S.P.Q.2d 1276, 1278 (CAFC 1987). Like Valet et al., Susi relates to a different field of art than Von Bonin, and it is urged that there is no motivation to combine Susi with the Von Bonin to arrive at the instant invention.

The Examiner is of the position that portions of Applicant's disclosure in the current specification constitute prior art. This is incorrect. The disclosure cited by the Examiner is a description of Applicant's invention and not any admitted prior art.

The Examiner further states that it would have been obvious for one skilled in the art to replace the flame retardant compositions of Von Bonin with those taught by Applicant. Again, Applicant respectfully urges that the Examiner is impermissibly reconstructing the art in light of Applicant's disclosure. For these and the foregoing reasons, it is respectfully submitted that none of the applied references, either alone or in combination, teach or suggest the claimed invention. Accordingly, it is respectfully submitted that the rejection is improper and should be withdrawn. Such action is requested

The Examiner has rejected claims 16 and 18-20 under 35 U.S.C. 103(a) over Von Bonin '527 in view of either Valet et al. or Susi, also in view of the Applicant's disclosure in the

specification and further in view of WO 96/07678. It is respectfully submitted that the rejection is incorrect.

Von Bonin, Valet et al. and Susi have been discussed above and those arguments are repeated herein. With regard to WO 96/07678 (equivalent to U.S. patent 5,804,680), a single-component resin is described which is hardenable by UV radiation. Said resin consists of a phosphorus-containing acrylate, another unsaturated compound that may be radically copolymerized with acrylates and a radical photo-initiator system. WO 96/07678 does not teach or suggest a coating comprising a flame retardant base resin and a transparent resin top layer, nor does WO 96/07678 describe the incorporation of a sterically hindered amine within such a transparent resin. In fact, the Examiner cites WO 96/07678 simply for its disclosure of polyurethane compositions. The Examiner states that it would have been obvious to one of ordinary skill in the art to use the polyurethane composition in WO 96/07678 as the polyurethane in von Bonin. In the first instance, it is respectfully submitted that such fails to overcome the deficiencies between the claimed invention and the combination of von Bonin with Valet et al. Susi and Applicant's disclosure. Additionally, it is again respectfully submitted that the Examiner is reconstructing the art in light of Applicant's disclosure. Where Applicant's teachings are needed to find the invention, the invention is not obvious. Obviousness cannot be determined solely after reading Applicant's teaching. Citing references that merely indicate that isolated parts recited in the claims are known is not a sufficient basis for a conclusion of obviousness; there must be something that suggests the desirability of combining the references in a manner calculated to arrive at the claimed invention. Ex parte Hiyamizu, 10 U.S.P.Q.2d 1393, 1394 (PTO Bd. Pat. Ap. and Int., 1988). There is simply nothing in WO 96/07678 or von Bonin that suggests to one skilled in the art that the references should be combined, or more particularly, combined with the other cited references to form Applicant's invention with a reasonable expectation of success. Furthermore, it is urged that the belief that one skilled in the art **could** form the claimed multilayered film does not suggest that one **should** form such a film to obtain the disclosed benefits. For these reasons, it is respectfully submitted that the rejection is improper and should be withdrawn.

The Examiner has rejected claims 16 and 18-20 under 35 U.S.C. 103(a) over von Bonin '527 in view of either Valet et al. or Susi, also in view of the Applicant's disclosure in the specification and further in view of Japanese publication JP 402178359A to Kawakami et al. It is respectfully submitted that the rejection is incorrect.

The arguments with respect to von Bonin, Valet et al., Susi and Applicant's disclosure apply equally herein and are repeated from above. With regard to JP 402178359A, a coating composition is disclosed which is a combination of specific polyfunctional urethane acrylate, a polyfunctional monomer and a phosphate-base (meth)acrylate monomer. JP 402178359A does not teach or suggest a coating comprising a flame retardant base resin and a transparent resin top layer, nor does JP 402178359A describe the incorporation of a sterically hindered amine within such a transparent resin. In fact, the Examiner cites JP 402178359A simply for its disclosure of polyurethane compositions. The Examiner states that it would have been obvious to one of ordinary skill in the art to use the polyurethane composition in JP 402178359A as the polyurethane in von Bonin. In the first instance, it is respectfully submitted that such fails to overcome the deficiencies between the claimed invention and the combination of von Bonin with Valet et al. Susi and Applicant's disclosure. Additionally, it is again respectfully submitted that the Examiner is reconstructing the art in light of Applicant's disclosure. There is simply nothing in JP 402178359A or von Bonin that suggests to one skilled in the art that the references should be combined, or more particularly, combined with the other cited references to form Applicant's invention with a reasonable expectation of success. Furthermore, it is urged that the belief that one skilled in the art **could** form the claimed multilayered film does not suggest that one **should** form such a film to obtain the disclosed benefits.

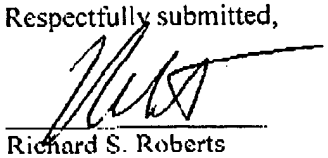
In response to the arguments submitted on June24, 2003, the Examiner states that there is sufficient motivation to combine the references found in the secondary references because protective coatings are shown. It is respectfully submitted that this is insufficient motivation for combining the applied references. Again, to support the conclusion of the

claimed combination is directed to obvious subject matter, the references must expressly or impliedly suggest the claimed combination where the Examiner must present a convincing line of reasoning as to why the artist would have found the claimed invention to have been obvious in light of the teaching of the references. The Examiner has failed to show how Applicant's new combination of elements is obvious based on a combination of the applied references. The Examiner has done little more than cite references to show that one or more elements or some combinations thereof, when each is viewed in a vacuum, is known. In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention **as a whole** would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schneck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983). It is respectfully asserted that the invention as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made.

For the foregoing reasons, it is respectfully submitted that all of the rejections under 35 U.S.C. 112 and 35 U.S.C. 103 are improper and should be removed. Such action is respectfully requested.

The undersigned respectfully requests re-examination of this application and believes it is now in condition for allowance. Such action is requested. If the Examiner believes there is any matter which prevents allowance of the present application, it is requested that the undersigned be contacted to arrange for an interview which may expedite prosecution.

Respectfully submitted,



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I hereby certify that this paper is being facsimile transmitted to the United States Patent and Trademark Office (FAX No. 703- 872-9306) on November 25, 2003.

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